

DIRECTED PRACTICE

ESTIMATED TIME

15 MIN



Animals and Fat

GROUPING

small groups

MATERIALS PER GROUP

- two plastic gloves
- solid butter
- a bowl of cold water

OBJECTIVE

Students will conduct this investigation to prove that fat keeps the body warm.

TEACHER BACKGROUND

Animals that live in tundra or polar ocean have adapted to survive in the cold weather. Animals develop fat deposits under their skin. The fat acts like an insulator. An insulator is a substance that does not allow heat to escape. The same concept applies to humans. When you wear a sweater on cold days, the heat escaping your body is trapped by the sweater.

ADVANCE PREPARATIONS

- Gather the materials for this practice.
- Prepare stations with the materials.
- Divide children into small groups and assign each group to a station.



SAFETY PRECAUTION

Have students wash their hands after they finish the practice.

DIRECTED PRACTICE

MATERIALS

two plastic gloves

solid butter

a bowl of cold water

Animals and Fat



Ask a question: Does fat keep your hands warm?

- 1 Spread a thick coating of solid butter on the outside of one of the gloves.
- 2 Leave the other glove uncoated.
- 3 Wear the two gloves.
- 4 Put your hands in cold water.

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SCIENCE SKILLS

By the end of this practice, students will have used the following science skills:

- Observe
- Record data
- Draw a conclusion



ANCHOR ACTIVITY

Use the Anchor Activity for this lesson as a warm-up to gauge student prior knowledge and help them engage at the beginning of class.

5 ObserveWhat do you feel? **Record.**

6 Draw a conclusion.

Does fat help animals stay warm?

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EXPECTED RESULTS

The hand in the glove with the butter coating will be warmer than the hand in the glove without the coating.

EXPLANATION

The fat from the butter keeps the hand in the butter-coated glove warm.

CONCLUSION

Fat acts as an insulator that does not allow heat to escape.

STEPS

- 1 Introduce students to the activity.

ASK

How do we survive cold weather in the winter?

We wear heavy, warm clothes.

How do animals stay warm in the winter?

Animals have fat and fur to help them stay warm.

Tell students to coat one glove with the butter. Ensure the glove is covered completely.

- 2 Tell students to leave the other glove uncoated.

SAY

We are going to compare the effect of the butter, which contains fat, on how we feel the temperature of the water.

- 3 Invite each group to choose a volunteer to wear the two gloves.
- 4 Invite volunteers to put both gloved hands in the cold water.
- 5 **Observe.** Guide students to observe how their hands feel.

ASK

Is there any difference in how the water feels between the two hands?

Possible answer: I feel cold with the hand in the glove that has no coating. I do not feel cold with the hand in the glove coated with butter.

- 6 **Draw a conclusion.** Help students draw a conclusion by answering the question and analyzing if fat helped to keep their hand warm.

ASK

Does fat help animals stay warm?

Possible answer: Yes, fat helps animals stay warm.